COASTAL CONSERVANCY

Staff Recommendation
September 6, 2018

YELLOWJACKET CREEK FISH PASSAGE IMPROVEMENT PROJECT

Project No. 18-025-01
Project Manager: Anna Schneider

RECOMMENDED ACTION: Consideration and authorization to disburse up to $225,000 to Trout Unlimited to restore 1.9 miles of salmon habitat through modification of an existing concrete weir, construction of a series of boulder step-pools, and installation of a fish screen; and adoption of CEQA findings.

LOCATION: Yellowjacket Creek, Redwood Creek Watershed, Sonoma County (Exhibit 1)

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

Exhibit 1: Project Location

Exhibit 2: Project Site Map

Exhibit 3: CEQA Mitigated Negative Declaration

Exhibit 4: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed two hundred twenty-five thousand dollars ($225,000) to Trout Unlimited ("the grantee") to restore 1.9 miles of salmon habitat through modification of an existing concrete weir, construction of a series of boulder step-pools, and installation of a fish screen, at Yellowjacket Creek, Sonoma County (Exhibit 2).

Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy (Executive Officer) the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be employed in carrying out the project.
3. A plan for acknowledgement of Conservancy funding and Proposition 1 as the source of that funding.

4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into agreements with the landowner sufficient to enable the grantee to implement, operate, and maintain the project.

Prior to commencing the project, the grantee and the landowner shall enter into and record an agreement pursuant to Public Resources Code 31116(c) sufficient to protect the public interest in the improvements."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 4.5 of Division 21 of the Public Resources Code, regarding the Conservancy's authority to undertake projects restoring natural habitats and watersheds within the nine Bay Area counties surrounding San Francisco Bay.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. Trout Unlimited is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.
4. The Conservancy has independently reviewed and considered the 2016 Fish Habitat Restoration Project's Mitigated Negative Declaration adopted by the CA Department of Fish and Wildlife on January 25, 2017 pursuant to the California Environmental Quality Act ("CEQA") and attached to the accompanying staff recommendation (Exhibit 3). The Conservancy finds that the proposed project as designed and mitigated avoids, reduces, or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the Project may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.

PROJECT SUMMARY:

Staff recommends the Conservancy authorize the disbursement of $225,000 to Trout Unlimited (TU) to restore 1.9 miles of salmon habitat through modification of an existing concrete weir, construction of a series of boulder step-pools, and installation of a fish screen at Yellowjacket Creek, Sonoma County.

The proposed project will restore fish passage to potentially high-quality spawning and rearing habitat upstream of an existing concrete diversion weir. The weir structure is a migration barrier to endangered Central California Coast (CCC) Coho salmon and threatened CCC steelhead trout. The project will address fish passage by constructing a boulder step-pool configuration designed to achieve fish passage, and by screening the existing diversion. This will restore passage to habitat in the Redwood Creek, a tributary of the Russian River. It will make 1.9 miles of

previously inaccessible spawning habitat and rearing habitat (with dense riparian cover and cold water) available to Coho salmon and steelhead. The project area is particularly important because surface flow in lower Yellowjacket Creek typically ceases during the summer of most years but is perennial even during severe and successive drought years in the reaches upstream and immediately downstream of the weir. Moreover, due to the spring source on Mount St. Helena and dense riparian cover, summer water temperatures remain cool upstream of the barrier.

Upstream of the restoration site, Yellowjacket Creek is free of structures that could block fish passage. The creek is part of a rain-dominated system where snow in the upper watershed occurs infrequently. Climate change will bring more frequent drought conditions and could substantially reduce water supplies. This could lead to poor water quality, warmer water temperatures, reduced surface flow, and reduced fish migration windows, which all pose significant threats to salmonid populations. Climate change predictions for this area also include higher peak flows from more intense storms. Frequent peak flow events increase the importance of floodplain habitat for high flow refugia. In channels that are incised, bed and bank erosion will accelerate, simplifying habitat and reducing the connection to the floodplain and access to high flow refugia. Both are critical for salmonid populations. This project will help salmonids survive climate change by restoring access to the cold, persistent flow in upper Yellowjacket Creek.

The private landowner leases the property known as "Kellogg Ranch" to Jackson Family Wines, Inc., which is responsible for the farming and operational management [as a vineyard and winery] of the property. The landowner is negotiating a Safe Harbor Agreement (SHA) for Kellogg Ranch with National Marine Fisheries Service (NMFS); and CA Department of Fish & Wildlife (CDFW) will likely issue a Consistency Determination. The SHA is a voluntary agreement that NMFS negotiates with private and non-federal landowners to restore, enhance, or maintain habitats for listed species. Since many endangered /threatened species occur on non-federal lands, this agreement will help conservation and recovery of those species. Incentives for the landowner to perform voluntary conservation actions pursuant to a SHA include technical assistance from NMFS in developing the SHA ("Riparian and Salmonid Conservation Program for Kellogg Ranch") and assurances that additional land and water use restrictions will not be imposed as a result of their voluntary conservation actions. This project includes innovative practices in creating suitable habitat for salmonids that can viewed as a demonstration project for other farmers and vintners to voluntarily restore, enhance, and maintain habitats for listed species on working landscapes. The SHA includes a Water Management Plan, Instream and Riparian Habitat Enhancement, Land Use Best Management Practices, and a Broodstock Program. This SHA goes well beyond the terms of TU's Fisheries Restoration Grant Program (FRGP) agreement with CDFW because it includes construction of a fish passage structure which will restore upstream and downstream passage of all life-stages of the covered species identified on site.

The fish passage structure is expected to be maintenance-free. Downstream and upstream grade control structures constructed out of native rock will be designed to stop channel incision and steps in the fish passage structure will be keyed into the bank to prevent bank erosion. The steps and pools in the fish passage reach are designed so that sediment is scoured in the pool at each step to allow for a jump location and landing area in the next upstream pool for salmonids. If pools between steps are filled with sediment after a peak discharge with a high sediment load, the pools should scour during subsequent storm events. Channel avulsion is unlikely to occur in this reach as the channel is confined in a narrow valley. The landowner will perform

maintenance of the fish screen. Project partnerships between the landowner, state and federal agencies, and an established conservation organization plus using best available science and innovative technology can serve as precedents and an incentive for future fish passage projects on private lands.

However, timing is critical because of the need to complete the boulder-weir construction in Fall 2018. The CDFW-funded portion of the project is through the FRGP, and that funding is contingent on boulder-weir construction occurring in the 2018 field season, so there is an urgent need to obtain the remaining funds for the project. Major components of this project include:

- A system of boulder weirs and step pools constructed on compacted backfill material and filled with engineered streambed material (ESM). Typical pool lengths of 20 feet will be interspersed with larger refuge pools 30 feet in length.
- A cone fish screen system designed to meet required fish screening criteria and maintain permitted water diversion rates
- An anchored boulder weir installed immediately downstream of the existing concrete weir to provide improved fish screen performance at low flows.

Major construction elements will include fish removal and exclusion, dewatering, clearing and grubbing, incised channel fill, grade control, bioengineering and revegetation, retrofit of weir structure, and installation of fish screen. An experienced instream contractor will perform installation of the boulder step-pool structures. The project is paying prevailing wage and the California Conservation Corps will assist with revegetation. Jackson Family Wines, as responsible for management and the daily operations of Kellogg Ranch, will complete a portion of the construction work required for this project for the landowner's cost-share.

Site Description: Yellowjacket Creek flows 3.6 miles from Mt. Saint Helena into Kellogg Creek. As Kellogg Creek flows into Knights Valley, its name changes to Redwood Creek, which flows into Maacama Creek and then into the Russian River. The upper watershed contains chaparral, oak woodland, and conifers. Knights Valley is dominated by vineyards but contains some oak woodland and grasslands. Redwood Creek enters a well-shaded canyon with a canopy of bay, alder, buckeye, willow, and redwood.

The Redwood Creek watershed has documented Coho salmon and steelhead trout. Juvenile steelhead of varying age classes are present downstream of the weir, and a relatively robust landlocked population is present between the weir and a natural barrier upstream.

The natural barrier (a waterfall) located 1.9 miles upstream of the existing weir is considered to be the upper limit of anadromy on Yellowjacket Creek. No artificial structures are present between the proposed project and the waterfall complex. The reach between the weir and the waterfall provides spawning and rearing habitat for salmonids, as well as access to spring-fed, perennial, cold water. It consists of a moderate gradient, moderately entrenched, coarse cobble-dominated channel transitioning into a high gradient, entrenched, boulder dominated channel toward the upper end near the waterfall. A dense, hardwood-dominated riparian corridor provides 80-90% canopy cover over the channel. Due to its spring source on Mount St. Helena and dense riparian cover, summer water temperatures remain cool with maximum weekly maximum temperatures ranging from 65°F immediately upstream of the weir to 63°F downstream of the waterfall. Channel banks are stable throughout the reach upstream of the weir.

The proposed fish passage structure will be designed to be stable during peak discharge events and the elevation of the bed in the incised reach immediately downstream of the existing barrier will be raised. In conjunction with riparian vegetation restoration along the channel banks, the enhanced channel will provide refugia during peak flows, which are predicted to increase due to climate change.

Grantee Qualifications: Trout Unlimited (TU) is a national coldwater fisheries conservation organization with over 150,000 members nationwide (over 10,000 in California) and over 200 professional staff nationwide (17 in California) dedicated to conserving, protecting, and restoring North America's trout and salmon fisheries and their watersheds for the next generation. Since its establishment in 1959, TU has successfully completed restoration projects throughout the United States. To date, TU and its partners have improved or eliminated over 863 miles of logging roads, removed 13 major fish migration barriers, reconnected over 80 miles of stream habitat, and added instream features to improve Coho salmon and steelhead habitat to over 93 miles of stream in California. TU has completed over a dozen water storage projects that collectively store more than 8.7 million gallons of water per year to enhance dry season streamflow for the benefit of steelhead and salmon in coastal California streams. TU has a history of success with their projects through partnerships with various stakeholder groups, both government, private, and nonprofit.

One of TU's current grants funded by the Conservancy will restore a section of Potrero Creek allowing steelhead and other fish to migrate to and from the upper reaches of the creek to the Carmel River. In addition, TU successfully completed the Conservancy-funded "Coastal Streamflow Stewardship Project" for both Feasibility Studies ($600,000) and Implementation ($721,231) that completed a suite of coastwide water conservation projects at Mattole, San Gregoria Creek, Pescadero Creek, and Little Arthur Creek.

Project History: The Yellowjacket Creek Fish Passage Improvement Project grew out of discussions between National Oceanic Atmospheric Administration (NOAA) and the landowner in 2011. The landowner retained a consulting firm, began project design work in 2013, and has funded all design. Design are currently at 100% completion and have been reviewed by CDFW and NOAA engineers. As mentioned in the project summary, CDFW also funded a portion of the project cost through their FRGP.

The current funding gap exists because the FRGP proposal was submitted in March 2016, before receipt of contractor bids. In addition, the funded FRGP 90% design required some changes (including larger boulder sizes) that have a higher unit cost. The bids received for the 100% design are significantly higher than the original cost estimate for the 90% design. As such, TU is applying for additional funding to keep the project on track. There is significant momentum, and investment by the project team, to construct the project in 2018. Conservancy Proposition 1 funding is critical because the project is ready for construction in 2018, however, it cannot be completed until all construction funding is secured.

The Conservancy has funded other work in key Russian River tributaries. The project is consistent with the goals of other Conservancy-funded projects, which have eliminated fish passage barriers and addressed water diversions from coastal streams and their associated infrastructure (like dams and weirs) to improve conditions for anadromous species.

PROJECT FINANCING

Coastal Conservancy	**$225,000**
CDFW (Fisheries Restoration Grant Program)	$310,356
Landowner Match: Cash & In-Kind	$783,306
Project Total	**$1,318,662**

The expected source of Conservancy funds for this project is the fiscal year 2018/19 appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used "for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state" (Section 79731). Section 79732 identifies specific purposes of Chapter 6 and includes: protect and restore aquatic, wetland and migratory bird ecosystems, including fish and wildlife corridors; protect and restore coastal watersheds, including, but not limited to bays, marine estuaries, and nearshore ecosystems; and assist in the recovery of endangered, threatened or migratory species by improving watershed health, instream flows, fish passage and coastal or inland wetland restoration. The proposed project will help achieve these purposes of Proposition 1 by restoring fish passage to upper reaches of Yellowjacket Creek through removal of a fish barrier and providing quality habitat for endangered Coho salmon and steelhead trout and other native California fish.

The proposed project was selected through a competitive grant process under the Conservancy's Proposition 1 Grant Program Guidelines adopted in June 2015 ("Prop 1 Guidelines"). The project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this "Project Financing" section, the "Project Summary" section and the "Consistency with Conservancy's Project Selection Criteria & Guidelines" section of this report.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project will be undertaken pursuant to Chapter 4.5 of the Conservancy's enabling legislation, Public Resources Code (PRC) Sections 31160-31165, to address resource goals in the San Francisco Bay Area. Pursuant to PRC Section 31162, the Conservancy may award grants in the nine-county San Francisco Bay Area to help achieve goals of the San Francisco Bay Area Conservancy Program. The proposed Project is located in Sonoma County within the nine-county Bay Area and will help achieve goals of the Bay Area Conservancy Program, as described below in "Consistency with The Conservancy's Strategic Plan Goals and Objectives."

Pursuant to PRC Section 31162(b), the Conservancy may award grants to enhance natural habitats of regional importance. The proposed project will enhance salmon spawning habitat in a watershed of regional importance by enhancing anadromous fish and native freshwater habitat. .

This project is appropriate for prioritization under the selection criteria set forth in Section 31163(c) in that: (1) it is supported by adopted local or regional plans that support and enhance fish passage projects, including the North Coast Resource Partnership-North Coast Integrated Regional Water Management Plan, 2014, Phase III., the Riparian and Salmonid Conservation

Plan for Kellogg Ranch (Landowner/NMFS/CDFW); the Russian River Coho Salmon Conservation Program; and the National Marine Fisheries Services (NMFS) Central California Coast Steelhead Multispecies Recovery Plan; (2) is regionally significant in terms of restoring passage for threatened salmonids to upstream spawning and rearing habitat; (3) TU is ready to commence work immediately upon award of Conservancy funding; (4) it will provide opportunities for benefits (salmon spawning habitat) that would be lost if not quickly implemented; and (5) the landowner is providing matching funds.

CONSISTENCY WITH CONSERVANCY'S 2018-2022 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 8, Objective C** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will increase resilience to climate change impacts to salmonids and native fish by restoring access to upstream riverine habitat and providing refugia.

Consistent with **Goal 12, Objective F** of the Conservancy's 2018-2022 Strategic Plan, the proposed project enhances riverine habitat for the benefit of fish and wildlife, including removal of barriers to fish passage or projects that ensure sufficient instream flow.

Consistent with **Goal 14, Objective B** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will assist the landowner to steward potential salmonid spawning habitat.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of state plans and policies:** This project will promote and implement numerous statewide plans including:
    - California Water Action Plan: Action 4: "Protect and Restore Important Ecosystems" consistent with the goals to 1) Restore Coastal Watersheds and 2) Eliminate Barriers to Fish Migration.
    - California @ 50 Million: The Environmental Goals and Policy Report
      Steward and Protect Natural and Working Landscapes: Support landscape-scale approaches to conservation that account for multiple benefits by providing fish passage for endangered salmonid species and native fish, while addressing climatic changes, and working landscapes.
    - CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan:
      Strategy 2 (Management of Watersheds, Habitat, and Vulnerable Species)

  - d. Field Restoration and Improved Protection: Managers of conservation lands, including working landscapes, should continue restoration and other land stewardship practices. State and federal agencies should seek resources and expertise that will help them expand capacity to reduce environmental stressors, improve watershed conditions and restore ecosystem services on priority lands. Reducing stressors includes but is not limited to...(v) Removing barriers to terrestrial and aquatic species movement.
- CA Wildlife Action Plan
  Statewide Goal 1: Abundance and Richness: Maintain and increase ecosystem and native species distributions in California while sustaining and enhancing species abundance and richness.
  - Goal 1.2 (Native Species Range and Distribution): Maintain and increase native species ranges and distributions.
  - Goal 1.3 (Native Species Abundance and Richness): Sustain and enhance native species abundance and diversity, including genetic diversity.

  Statewide Goal 2: Enhance Ecosystem Conditions: Maintain and improve ecological conditions vital for sustaining ecosystems in California.
  - Goal 2.1 (Connectivity): Maintain and improve connectivity vital for sustaining ecosystems (including those relevant to vegetation, wildlife corridors, genetic permeability, water flow, floodplains [longitudinal and lateral], and groundwater).
- Province-Specific Conservation Strategies – North Coast and Klamath Target: Native Aquatic Species Assemblages/Communities - Conservation Strategy 8 (Direct Management): Manage dams and other barriers by reviewing potential cost/benefit of modifying or removing dams that block access to significant amounts of high quality salmonid spawning and rearing habitat.
- National Marine Fisheries Service, 2012, Final Recovery Plan for Central California Coast Coho salmon (*Oncorhynchus kisutch*) Evolutionarily Significant Unit
  Task RR-CCC-6.1.2.12: Evaluate and implement passage opportunities in the Maacama Creek subwatershed and its tributaries. Priority streams include Redwood Creek, Foote Creek, Kellogg Creek, and Yellowjacket Creek.
- NMFS, 2016, Coastal Multispecies Recovery Plan for California Coastal Chinook Salmon, Northern California steelhead and Central California Coast steelhead
  Action Step: MaC-CCCS-5.1.1.1: Improve fish passage at sites identified as partial or total barrier to anadromy. High priority tributary watersheds include Yellowjacket Creek and Kellogg Creek.
- California Department Fish and Game, 2004, Recovery Strategy for California Coho Salmon
  - Task RR-HU-05: Treat barriers to Coho salmon passage in the Russian River HU.

4. **Support of the public:** The proposed project is supported by State Senator Mike McGuire, Assemblymember Jim Wood (District 2), NOAA/NMFS, Sonoma County Board of Supervisors Chair Shirlee Zane, and Sonoma County Supervisor James Gore. Project letters are included in Exhibit 4.

5. **Location:** The project is located in Sonoma County, within the jurisdiction of the nine-county San Francisco Bay Area Conservancy Program and will provide passage for anadromous fish in the northern part of San Francisco Bay.
6. **Need:** Without Conservancy funding, there is not sufficient funding to support project construction and CDFW funding and programmatic permitting will be lost.
7. **Greater-than-local interest:** The purpose of this project is to support the continued existence of the State-listed steelhead. The listing of the species demonstrates that the project is of greater-than-local interest.
8. **Sea level rise vulnerability:** The project site will not be vulnerable to the effects of sea level rise.

Additional Criteria

9. **Urgency:** FRGP funding is contingent on boulder-weir construction occurring in the 2018 field [dry] season, so there is an urgent need to obtain the remaining funds for the project.
11. **Leverage**: See the "Project Financing" section above.
13. **Innovation:** The project is innovative because it is part of a larger Safe Harbor Agreement, one of the few that NMFS has negotiated with private landowners for salmonids. See "Project Summary".
14. **Readiness**: Project is ready to finalize planning and begin construction in Fall 2018 once remaining funding is secured.
15. **Realization of prior Conservancy goals**: See "Project History" above.
17. **Cooperation**: See "Project Summary" above.
18. **Vulnerability from climate change impacts other than sea level rise:** This project will help salmonids survive climate change by restoring access to the cold, persistent flow in upper Yellowjacket Creek.
19. **Minimization of greenhouse gas emissions:** Greenhouse gas (GHG) emissions resulting from construction activity would be short-term in nature and limited in quantity and scope, resulting in less than significant impacts.

CEQA COMPLIANCE:

In order to implement projects to improve fish spawning and rearing habitats through the FRGP, CDFW developed a Programmatic Mitigated Negative Declaration (MND) for all of its 2016 FRGP funded projects (Exhibit 3: Programmatic Mitigated Negative Declaration). The proposed project is one of the 2016 FRGP funded projects. The MND has identified "Less-than-Significant with Mitigation" impacts to the categories of: biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise. No "Potentially Significant Impacts" were found. The MND addresses all of the anticipated environmental effects of the funded projects by providing mitigation measures for the various types of projects that would be implemented throughout the state in a Mitigation Measures, Monitoring and Reporting Program (MMMRP), which is attached as Appendix B to the MND. Key mitigation measures, as contained in Exhibit 3, are summarized as follows:

Biological Resources: To minimize the potential for disruption and harm to biological resources, including endangered, rare or threatened species that may be present at the project site:

- Project construction, including fish dewatering, will be conducted during the dry season (July 1- Oct 15).
- Specific Measures for Endangered, Rare, or Threatened Species That Could Occur at Specific Work Sites: Yellowjacket Creek occurs within the range of the California red-legged frog [*Rana drayton*] (CRLF). Activities proposed for Yellowjacket Creek Fish Passage Improvement Project will have a USFWS-approved biologist survey the site at least 15 days before project activities begin and as required throughout the project to carry out appropriate measures to minimize adverse effects for the CRLF. In addition to protective measures for the CRLF, qualified biologists will be utilized throughout the scope of the project to ensure that the MMMP protocols are correctly implemented for salmonids and other biological resources.
- All habitat improvements shall be done in accordance with techniques in the *California Salmonid Stream Habitat Restoration Manual*. The most current version of the manual is available at http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp.
- Best management practices associated with fish screens and measures to minimize effects to salmonids associated with fish screen construction, maintenance, and repair will be utilized.

Cultural Resources: To minimize the potential for disruption and harm to cultural resources that may be at the project site, the procedure for a programmatic evaluation of archaeological resources is provided in Appendices D and E and mitigation measures in Appendix B of the MND, and highlighted below:

- CDFW shall ensure that the grantee or responsible party is aware of site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
- In the event of any discovery of human remains, archaeological deposits, or any other type of historic property, the CDFW shall notify the USACE archaeological staff within 24 hours. Construction work shall be suspended immediately and shall not resume until USACE re-authorizes project construction.

Geology and Soils: There is no potential for a significant adverse impact to geology and soils; implementation of the restoration project will contribute to an overall reduction in erosion and sedimentation. However, in order to avoid temporary increases in surface erosion, the following key mitigation measures will be implemented:

- All stream crossing replacement or modification designs, involving fish passage, shall be reviewed and approved by NOAA (or CDFW) engineers prior to onset of work.
- Effective erosion control measures shall be in-place at all times during construction.
- Upon project completion, all exposed soil present in and around the project site shall be stabilized within 7 days.

Hazards and Hazardous Materials: The project will not create a significant hazard to the public or the environment. If the site requires the use of heavy equipment, a potential accident

might occur that releases machines fluids or sparks. Mitigation measures listed below will help reduce these impacts to less-than-significant:

- Heavy equipment that will be used in these activities will be in good condition, be maintained through the course of the project, and will be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started.
- All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet from any riparian habitat or water body and fuel absorbent mats shall be placed under pump while fueling. Staging/storage areas for equipment, materials, fuels, lubricants, and solvents will be located outside of the stream's high water channel and associated riparian area. Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire.
- All equipment operators shall be trained in the procedures to be taken should an accident occur and CDFW shall ensure the grantee has prepared a Spill Prevention/Response plan prior to the onset of work.

Hydrology and Water Quality: The project will not violate any water quality standards or waste discharge requirements, nor substantially degrade water quality. Some minor turbidity may be generated during placement of stream habitat structures and culvert replacement and as the streambed around instream structures adjusts during the first high stream flow following activity completion. Mitigation measures will ensure that any potentially significant short-term impacts to water quality are avoided or mitigated to below a level of significance as followed:

- Instream work shall be conducted during the period of lowest flow and CDFW shall inspect the site to assure that turbidity control measures are in place.
- To control erosion during and after project implementation, best management practices, as identified by the appropriate Regional Water Quality Control Board, shall be implemented
- If CDFW determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW approved sediment control devices are installed and/or abatement procedures are implemented.

Noise: Personnel shall wear hearing protection while operating or working near noisy equipment (producing noise levels ≥85 dBs, including chain saws, excavators, and back hoes). No other specific mitigation measures are required for noise.

Staff has independently evaluated the 2016 Fish Habitat Restoration Project's Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (MMRP) adopted by CDFW on January 25, 2017 and concurs that the Yellowjacket Creek Fish Passage Improvement Project as mitigated, avoids, reduces or mitigates the possible significant environmental effects to a level of less-than-significant. In addition, the project is expected to achieve a net benefit to the environment by enhancing and maintaining quality salmonid spawning and rearing habitat.

Upon approval of the project, Conservancy staff will file a Notice of Determination.